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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,925	09/07/2004	Dong-Seung Seen	100528.0007US1	7725

34284 7590 08/27/2007
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EXAMINER

MAKAR, KIMBERLY A

ART UNIT	PAPER NUMBER
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1636

MAIL DATE	DELIVERY MODE
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08/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/506,925	Applicant(s) SEEN ET AL.	
	Examiner Kimberly A. Makar, Ph.D.	Art Unit 1636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 2,3,5,7,9,11 and 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,6,8,10,12,14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's arguments filed 6/13/07 are acknowledged. In the office action dated 1/16/07 claims 1,4,6,8,10, 12, and 14-15 were rejected under 112 2nd rejections, due to inconsistencies in the claim and the sequence listing. It appeared that applicant inadvertently converted the nucleic acid sequence coding for the protein into a three letter amino acid sequence, thus only comprising Alanine, Threonine, Cysteine and Glycine amino acid residues. Applicants have amended the sequence listing for SEQ ID NOs: 1 and 2 to reflect an amino acid sequence rather than a nucleotide sequence.
2. The following rejection is maintained from the office action dated 1/16/07, for the reasons stated therein, further explained below.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1, 4, 6, 8, 10, 11,14 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 (and dependent claims) recites an enhanced inserted yellow fluorescent protein, wherein the 145th amino acid of YFP (yellow fluorescence protein) comprises the amino acid sequence of YGGSGAS (SEQ ID: NO:1). It is unclear if SEQ ID NO:1 refers to a full length yellow fluorescent protein known in the art, the protein comprising SEQ ID NO:1 or only the

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amino acid sequence of YGGSGAS. The amino acid sequence of SEQ ID NO:1 shows that the YGGSGAS sequence is located at amino acids 146-152. If the claim is directed to a yellow fluorescent protein known in the art, which one? Do all yellow fluorescent proteins have at least 145 amino acids? From the current claim construction, it appears that the claim is directed to an amino acid sequence prior to an inserted sequence of YGGSGAS, however, SEQ ID NO:1 already has the sequence of YGGSGAS inserted into the sequence listing. It appears that applicant is intending to claim "an amino acid sequence comprising SEQ ID NO:1." It would be remedial to amend the claim to clarify the specific claim language.

5. Claim 4 (and dependent claims) recites the enhanced yellow fluorescence protein as claimed in claim 1, wherein the 192nd amino acid of Proline is replaced by Leucine (SEQ ID NO:2). In addition to the lack of clarity associated with Claim 1 (see above), the amino acid sequence of SEQ ID NO:1 shows that the 192nd amino acid is Asparagine (ASN) not a Proline nor a Leucine. The amino acid sequence of SEQ ID NO:2 is also an Asparagine (ASN) not a Proline nor a Leucine. However, amino acid 199 of SEQ ID NO:1 is a Proline, and is changed to a Leucine in SEQ ID NO:2. Is this the amino acid change that applicant is claiming? The claim appears to be directed to the amino acid sequence of a YFP prior to the YGGSGAS insertion and the Proline to Leucine change, but, the SEQ ID NOs have the changes already incorporated into the Sequence listing. As such, the amino acid number directing where the changes occur is unclear. It appears that applicant is intending to claim "an amino acid sequence

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comprising SEQ ID NO:2." It would be remedial to amend the claim to clarify the specific claim language.

6. The lack of clarity of what the applicant is trying to claim, combined with inconsistencies in the amino acid sequences would render the skilled artisan unable to determine the metes and bounds of the claimed invention.

Conclusion

7. No claims are allowed.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly A. Makar, Ph.D. whose telephone number is 571-272-4139. The examiner can normally be reached on 8AM - 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Woitach, Ph.D. can be reached on (571) 272-0739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kam/07/30/07

/Daniel M. Sullivan/
Primary Examiner
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